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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,051	07/30/2001	Paolo Balbi	383-1006	9822

7590 08/24/2004

JENNER & BLOCK  
ONE IBM PLAZA  
CHICAGO, IL 60611

EXAMINER

HOOK, JAMES F

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/918,051

Applicant(s)

BALBI ET AL.

Examiner

James F. Hook

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13, 15, 17, 19, 21, 22 and 30-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13, 15, 17, 19, 21, 22 and 30-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13, 21, 30-34, and 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo in view of Takei. The patent to Kubo discloses the recited pipe for pressurized fluid feed systems including diesel engines comprising a wall 1 of predetermined thickness with an internal surface and an external surface, and an internal bore with a predetermined diameter for flow of fluid where the internal and/or external are treated by means of a nitriding method to obtain an increased hardness with regard to stresses, the pipe is made of steels, the external diameter is much greater than the internal diameter, the front end inherently has to be designed for connection and the surface treatment extends the length of the pipe and inherently would cover the connection portion also, where the specific use of the article is considered used for fuel common rails as such is merely intended use, and the method of nitriding is also given. The patent to Kubo discloses all of the recited structure with the exception of using a pulsed gas to provide the nitride layer. The patent to Takei discloses the recited method of nitriding a metal substrate using a pulsed gas method to achieve more uniform results, where the reversed flow would inherently mean the pressure of the gas would change from pressurized to a vacuum and passing from a

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positive to a negative pressure which would inherently occur to pulse the flow and remove the gas would inherently mean a change in pressures. It would have been obvious to modify the method of nitriding used in Kubo by substituting a pulsed gas method to provide a more uniform nitride layer on the substrate layer as suggested by Takei.

Claims 13, 21, 30-34, and 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo in view of Asahi. The patent to Kubo discloses the recited pipe for pressurized fluid feed systems including diesel engines comprising a wall 1 of predetermined thickness with an internal surface and an external surface, and an internal bore with a predetermined diameter for flow of fluid where the internal and/or external are treated by means of a nitriding method to obtain an increased hardness with regard to stresses, the pipe is made of steels, the external diameter is much greater than the internal diameter, the front end inherently has to be designed for connection and the surface treatment extends the length of the pipe and inherently would cover the connection portion also, where the specific use of the article is considered used for fuel common rails as such is merely intended use, and the method of nitriding is also given. The patent to Kubo discloses all of the recited structure with the exception of using a pulsed gas to provide the nitride layer. The patent to Asahi discloses the recited method of treating a metal substrate using a pulsed gas method to achieve more uniform results where the pressure of the gas is pulsed as seen in figure 15. It would have been obvious to modify the method of nitriding used in Kubo by

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substituting a pulsed gas method to provide a more uniform layer on the substrate layer as suggested by Asahi.

Claims 13, 15, 17, 19, 21, 22, 30-34, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinori (JP 11 166 673) in view of Takei. The reference to Yoshinori discloses the recited pipe for pressurized fluid feed systems including diesel engines comprising a wall 1 of predetermined thickness with an internal surface and an external surface, and an internal bore with a predetermined diameter for flow of fluid where the internal surface is treated by means of a nitriding method to obtain an increased hardness with regard to stresses, the pipe is made of steels, the external diameter is much greater than the internal diameter, the front end inherently has to be designed for connection and the surface treatment extends the length of the pipe and inherently would cover the connection portion also, where the specific use of the article is considered used for fuel common rails as such is merely intended use, and the method of nitriding is also given. The patent to Yoshinori discloses all of the recited structure with the exception of using a pulsed gas to provide the nitride layer. The patent to Takei discloses the recited method of nitriding a metal substrate using a pulsed gas method to achieve more uniform results. It would have been obvious to modify the method of nitriding used in Yoshinori by substituting a pulsed gas method to provide a more uniform nitride layer on the substrate layer as suggested by Takei.

Claims 13, 15, 17, 19, 21, 22, 30-34, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinori (JP 11 166 673) in view of Asahi. The reference to Yoshinori discloses the recited pipe for pressurized fluid feed systems

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including diesel engines comprising a wall 1 of predetermined thickness with an internal surface and an external surface, and an internal bore with a predetermined diameter for flow of fluid where the internal surface is treated by means of a nitriding method to obtain an increased hardness with regard to stresses, the pipe is made of steels, the external diameter is much greater than the internal diameter, the front end inherently has to be designed for connection and the surface treatment extends the length of the pipe and inherently would cover the connection portion also, where the specific use of the article is considered used for fuel common rails as such is merely intended use, and the method of nitriding is also given. The patent to Yoshinori discloses all of the recited structure with the exception of using a pulsed gas to provide the nitride layer. The patent to Asahi discloses the recited method of treating a metal substrate using a pulsed gas method to achieve more uniform results where the pressure of the gas is pulsed as seen in figure 15. It would have been obvious to modify the method of nitriding used in Yoshinori by substituting a pulsed gas method to provide a more uniform layer on the substrate layer as suggested by Asahi.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo in view of Takei as applied to claims 13, 21, 30-34, and 36-39 above, and further in view of Tomita. The patent to Kubo as modified discloses all of the recited structure with the exception of utilizing an autofrettage method to prestress the pipe. The patent to Tomita discloses that it is old and known in diesel engine fuel rails to prestress the rail using an autofrettage method. It would have been obvious to one skilled in the art to

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modify the pipe in Kubo as modified by prestressing the pipe using an autofrettage method as such would pressure fatigue resistance as suggested by Tomita.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo in view of Asahi as applied to claims 13, 21, 30-34, and 36-39 above, and further in view of Tomita. The patent to Kubo as modified discloses all of the recited structure with the exception of utilizing an autofrettage method to prestress the pipe. The patent to Tomita discloses that it is old and known in diesel engine fuel rails to prestress the rail using an autofrettage method. It would have been obvious to one skilled in the art to modify the pipe in Kubo as modified by prestressing the pipe using an autofrettage method as such would pressure fatigue resistance as suggested by Tomita.

### ***Response to Arguments***

Applicant's arguments filed July 20, 2004 have been fully considered but they are not persuasive. As set forth above the method in Takei is pulsed and results in the gas being put in and removed, it is considered that inherently that would mean the pressure would have to change from a positive pressure of the treating gas to a negative pressure to remove it, and that such would inherently result in a change in pressure to create the pulses. However, the examiner has also provided another reference which teaches pulsing treating gas by changing the pressure of the gas should it be found that Takei is not in fact changing pressures, however, it is not clear from Takei that constant pressure is ever kept, and such therefore there is no suggestion that the pulsations don't result in pressure changes, as the examiner believes they do. The recited column

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6, lines 10-19 do not recite that pressure is uniform in any way. The direction of flow may change but that would only occur if there were a difference in pressure occurring.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Takayama (396), Conybear, Dexter, Meletis, Bell, and Oofune disclosing state of the art nitriding and coating methods.

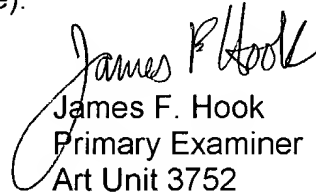
Any inquiry concerning this communication or earlier communications from the examiner should be directed to James F. Hook whose telephone number is (703) 308-2913. The examiner can normally be reached on Monday to Wednesday, work at home Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar can be reached on (703) 308-2087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
James F. Hook  
Primary Examiner  
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JFH